Other (non-therapeutic communities) substance use disorder treatment for youth in state institutions

Juvenile Justice

Benefit-cost estimates updated December 2019. Literature review updated August 2017.

Current estimates replace old estimates. Numbers will change over time as a result of model inputs and monetization methods.

The WSIPP benefit-cost analysis examines, on an apples-to-apples basis, the monetary value of programs or policies to determine whether the benefits from the program exceed its costs. WSIPP's research approach to identifying evidence-based programs and policies has three main steps. First, we determine "what works" (and what does not work) to improve outcomes using a statistical technique called meta-analysis. Second, we calculate whether the benefits of a program exceed its costs. Third, we estimate the risk of investing in a program by testing the sensitivity of our results. For more detail on our methods, see our Technical Documentation.

Program Description: This analysis is on youth receiving substance use disorder treatment while serving a sentence in a state institution. Other substance use disorder treatment is a broadly defined category that includes a variety of substance use disorder treatment modalities targeted and delivered to youth who are involved in the juvenile justice system. Substance use disorder treatments seek to reduce substance use issues (e.g., general use and frequency) and its related effects (e.g., recidivism). These interventions can be delivered in individual, group, or family modalities.

In the included studies, youth participated in group- or family-based interventions. The interventions occurred both in detention and the community post-release and ranged in length from three to five months. In the included studies that report demographics, 85% of participants were youth of color and 7% were female.

We exclude evaluations of therapeutic communities and substance use disorder treatments for court-involved youth from this meta-analysis and analyze them separately.

Benefit-Cost Summary Statistics Per Participant

Benefits to:

Taxpayers	$6,414
Participants	$158
Others	$20,366
Indirect	$2,192
Total benefits	$29,131
Net program cost	($3,415)
Benefits minus cost	$25,716

Benefit to cost ratio	$8.53
Benefits minus costs	$25,716
Chance the program will produce benefits greater than the costs	72 %

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2018). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our Technical Documentation.

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to:[1]	Benefits to:				
	Participants	Taxpayers	Others[2]	Indirect[3]	Total
Crime	$0	$5,986	$19,969	$2,993	$28,948
Labor market earnings associated with alcohol abuse or dependence	$0	$0	$0	$0	$1
Property loss associated with alcohol abuse or dependence	$0	$0	$0	$0	$0
Health care associated with illicit drug abuse or dependence	$60	$386	$397	$193	$1,037
Mortality associated with illicit drugs	$98	$42	$0	$714	$853
Adjustment for deadweight cost of program	$0	$0	$0	($1,707)	($1,707)
Totals	$158	$6,414	$20,366	$2,192	$29,131

[1]In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

[2]"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

[3]"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

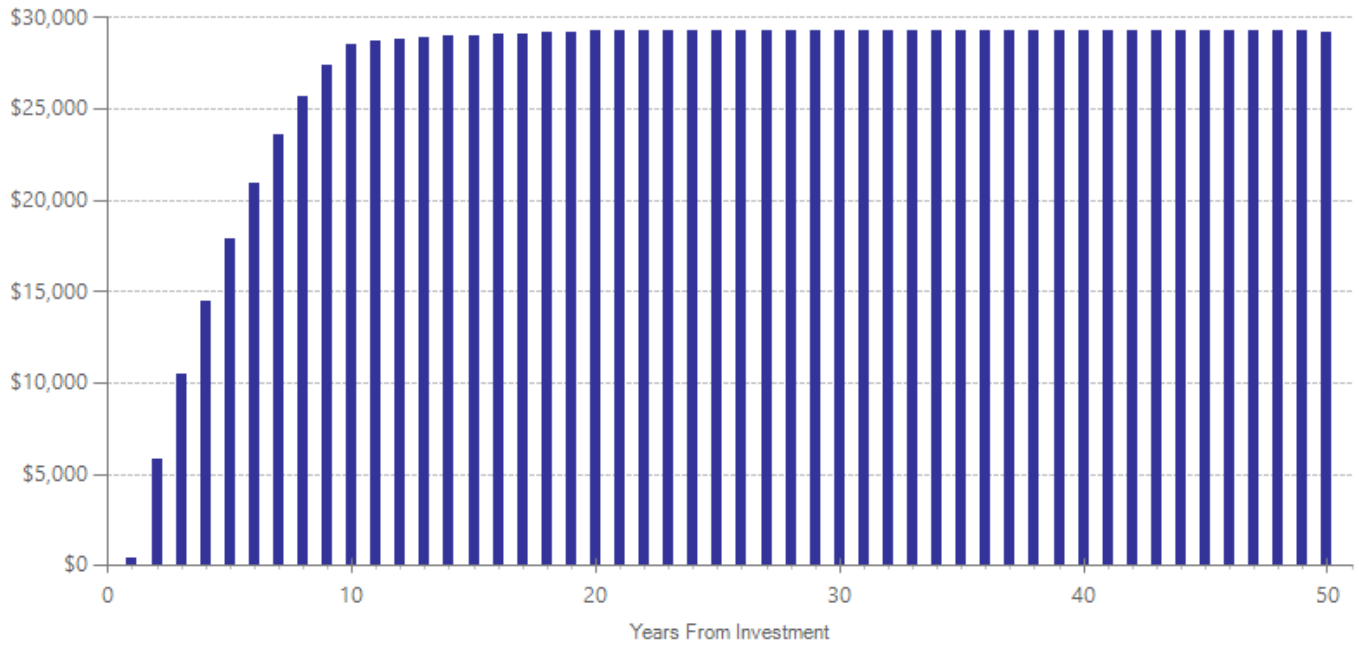
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	$3,114	2012	Present value of net program costs (in 2018 dollars)	($3,415)
Comparison costs	$0	2012	Cost range (+ or -)	20 %

The per-participant cost estimate is based on the average monthly cost of treatment in Washington applied to the average length of treatment in the included studies. We estimate the monthly cost of substance use treatment using a per-youth cost of treatment provided by Washington State Juvenile Rehabilitation, divided by the average length of treatment in Washington. We multiply this monthly cost by the weighted average length of treatment for the included studies (3.8 months).

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta-analysis. The cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our Technical Documentation.

Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the "break-even" point from a budgeting perspective. If the dollars are negative (bars below $0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach $0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above $0, the benefits of the program exceed the initial investment.

Meta-Analysis of Program Effects

Outcomes measured	Treatment age	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
				First time ES is estimated			Second time ES is estimated				
				ES	SE	Age	ES	SE	Age	ES	p-value
Alcohol use disorder	15	1	110	-0.175	0.142	15	0.000	0.187	18	-0.175	0.218
Crime	15	1	110	-0.216	0.142	16	-0.216	0.142	24	-0.216	0.129
Illicit drug use disorder	15	1	110	-0.364	0.143	15	0.000	0.187	18	-0.364	0.011
Substance use disorder^	15	1	76	-0.143	0.163	15	n/a	n/a	n/a	-0.143	0.381

^WSIPP's benefit-cost model does not monetize this outcome.

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our Technical Documentation.

Citations Used in the Meta-Analysis

Friedman, A.S., Terras, A., & Glassman, K. (2002). Multimodal substance use intervention program for male deliquents. *Journal of Child and Adolescent Substance Abuse, 11*(4), 43-65.

Henderson, C.E., Dakof, G.A., Liddle, H.A., & Greenbaum, P.E. (2010). Effectiveness of multidimensional family therapy with higher severity substance-abusing adolescents: Report from two randomized controlled trials. *Journal of Consulting and Clinical Psychology, 78*(6), 885-897.

For further information, contact:
(360) 664-9800, institute@wsipp.wa.gov

Printed on 10-17-2020